

A new species of *Nephoptera* Uvarov from Persia, with a revised key to the species of this genus

(Orthoptera: Tettigoniidae)

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In my recent revision of *Nephoptera* Uvarov (Ragge, 1956) I included three species in the genus: *N. tibialis* Uvarov, *N. persica* (Uvarov), and *N. robusta* (Bei-Bienko). The last two species had been previously referred to the genus *Pseudanerota* Bei-Bienko by Bei-Bienko (1954), but for the reasons which I gave in my revision (op. cit., p. 279) I do not regard the distinguishing characters of *Pseudanerota* Bei-Bienko as being adequate for a generic separation. The three genera *Phaneroptera* Serville, *Eulioptera* Ragge, and *Nephoptera* Uvarov, form a homogeneous group which cannot in my opinion be further subdivided at present without giving rise to difficulties of definition.

I am much indebted to Mr. E. Morales Agacino of the Instituto Español de Entomología, Madrid, for sending me the four specimens on which the description given below is based, and to Dr. L. Mistshenko of the U. S. S. R. Academy of Sciences, Leningrad, for sending me the holotype of *N. robusta* (Bei-Bienko). The new species, together with *Pseudanerota richteri* Bei-Bienko, 1958, is included in the revised key to species which concludes this paper.

Nephoptera bienkoi sp. nov.

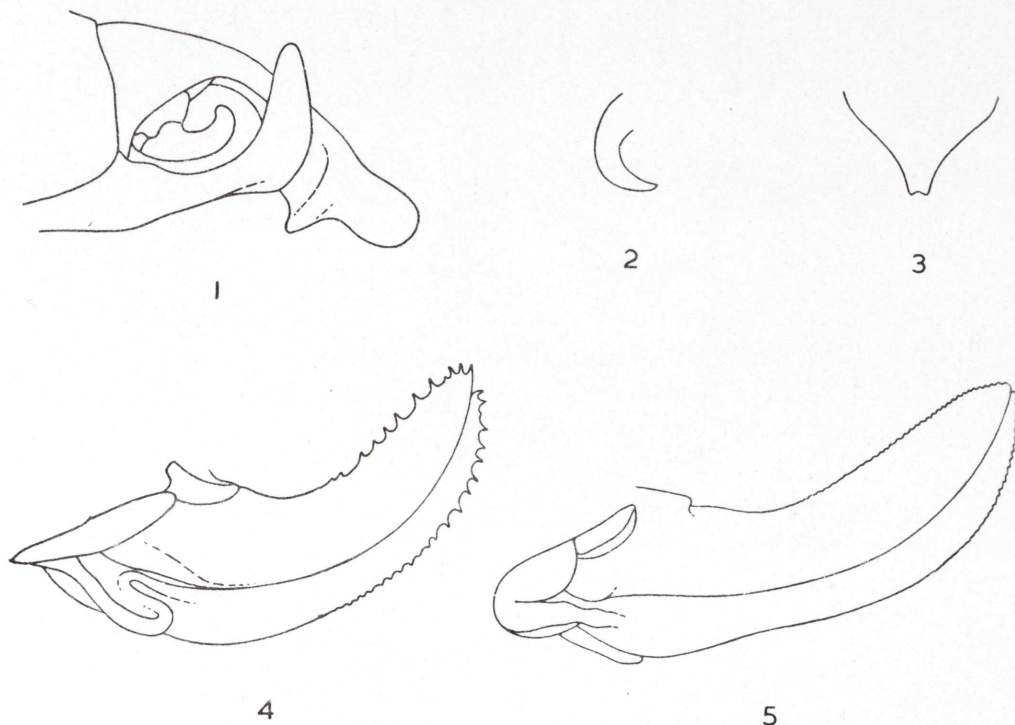
Holotype ♂, PERSIA: Gotwend, 1898 (Escalera). In the Instituto Español de Entomología, Madrid.

Diagnosis. ♂. Tenth abdominal tergite with very large median posterior projection, as in fig. 1. Subgenital plate large and robust as in fig. 1. Cerci as in fig. 2.

♀. Tenth abdominal tergite with median posterior projection, as in fig. 3. Ovipositor as in fig. 4, with large, backwardly directed, basal folds.

Description. ♂. Fastigium of vertex somewhat compressed, sulcate above.

Pronotum without lateral carinae. Spine of fore coxae well-developed. Fore tibiae with about 2-3 external spurs, including 1 or 2 apical ones. Mid tibiae fairly strongly swollen in basal half, with about 5-8



Figs. 1-5.—*Nephoptera* Uvarov. 1. Lateral view of the male genitalia of *N. bienkoi* sp. nov., 2. Dorsal view of the left male cercus of *N. bienkoi* sp. nov., 3. Dorsal view of the female tenth abdominal tergite of *N. bienkoi* sp. nov., 4 and 5. Lateral view of the ovipositor of (4) *N. bienkoi* sp. nov., and (5) *N. robusta* (Bei-Bienko).

external spurs, including 1 or 2 apical ones. Hind femora unarmed. Hind tibiae with about 20-25 external dorsal spines, and 2 apical spurs on each side. Fore wings with distinct bifurcate R_s , which is free from MA. Hind wings extending beyond fore wings by between quarter and third length of latter.

Tenth abdominal tergite with very large median posterior projection which completely covers supra-anal plate, as in fig. 1. Cerci short, robust, and strongly curved, as in fig. 2. Subgenital plate large and robust, as in fig. 1, and deeply bifurcate.

General coloration green, with dark brown spots on vertex, pronotum, femora, basal parts of tibiae, thoracic pleurites, and abdominal tergites. Tibial spines and spurs with dark tips. Cells of fore wings and exposed part of hind wings translucent; remainder of hind wings hyaline. Cerci darkened in apical region.

♀. As male except for genitalia. Tenth abdominal tergite with median posterior projection, as in fig. 3. Ovipositor as in fig. 4, with large teeth along distal two-thirds of dorsal margin and distal half of ventral margin; basal folds large and directed backwards. Subgenital plate narrow, not extending posteriorly as far as basal folds of ovipositor.

Measurements (in mm.)	1 ♂	3 ♀	Means of ♀
Total length	30.9	32.8-34.1	33.60
Median length of pronotum	3.1	3.1- 3.3	3.23
Length of hind femur	15.9	15.9-16.3	16.13
Maximum vertical width of hind femur...	1.9	2.1- 2.1	2.10
Length of fore wing	20.7	22.7-24.0	23.33
Length of exposed part of hind wing.	6.3	6.1- 7.1	6.63
Length of ovipositor	—	6.1- 6.7	6.32

Variation. The fastigium of the vertex varies somewhat in shape, and was appreciably more compressed in the male than in the females. The tibial spines and spurs vary a little in number.

Discussion. The enormously enlarged and modified tenth abdominal tergite and subgenital plate of the male are so far unknown in the genus. The posterior projection from the tenth abdominal tergite of the female also occurs, though in a somewhat modified form, in *N. robusta* (Bei-Bienko). This may be taken as an indication that the male of *N. robusta* (Bei-Bienko), which is not yet known, has genitalia of the highly modified type shown by *N. bienkoi* sp. nov. The species of *Nephoptera* Uvarov thus show two quite different types of male genitalia: the simple, relatively unmodified type found in *N. tibialis* Uvarov, *N. persica* (Uvarov), and *N. richteri* (Bei-Bienko) (comb. n.), and the highly modified type found in *N. bienkoi* sp. nov., and, probably, *N. robusta* (Bei-Bienko). The same two types are shown by *Phaneroptera* Serville, *Eulioptera* Ragge, *Horatosphaga* Schaum, and several other genera of Phaneropterinae. Females of *N. bienkoi* sp. nov. may be distinguished from *N. robusta* (Bei-Bienko) by the shape of the ovi-

positor and by its large basal folds, which extend posteriorly beyond the tip of the subgenital plate.

I have great pleasure in dedicating this species to Professor G. Ya Bei-Bienko of the U. S. S. R. Academy of Sciences, Leningrad.

Material examined.

♂ holotype; 3 ♀ paratypes, same data as holotype (2 in the Instituto Español de Entomología, Madrid; 1 in the British Museum (Natural History), London).

Distribution. Known only from the type locality.

Revised key to the species of Nephoptera Uvarov.

1. Tenth abdominal tergite greatly enlarged in the male and with a median posterior projection in the female 2
- Tenth abdominal tergite unmodified 3
2. Ovipositor as in fig. 4, its basal folds extending posteriorly beyond the tip of the subgenital plate *N. bienkoi* sp. nov.
- Ovipositor as in fig. 5, its basal folds not extending posteriorly beyond the tip of the subgenital plate *N. robusta* (Bei-Bienko).
3. Hind femora more than 15 mm. in length in the male and 17 mm. in the female. General coloration brown or grey *N. tibialis* Uvarov.
- Hind femora less than 15 mm. in length in the male and 17 mm. in the female. General coloration green 4
4. Costal area of the fore wings with a more sparse venation than the remaining areas. Subgenital plate of the female extending posteriorly beyond the basal folds of the ovipositor *N. persica* (Uvarov).
- Costal area of the fore wings of the same texture as the remaining areas, at least in the proximal two-thirds. Subgenital plate of the female not extending posteriorly beyond the basal folds of the ovipositor *N. richteri* (Bei-Bienko).

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